

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

ORDER NO: 90-074

SITE CLEANUP REQUIREMENTS FOR:

**HEXCEL CORPORATION
10 TREVARNO ROAD
LIVERMORE
ALAMEDA COUNTY**

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

1. **SITE DESCRIPTION** Hexcel Corporation (Hexcel), hereinafter referred to as discharger, operates a composite materials manufacturing facility at 10 Trevarno Road, Livermore, Alameda County (Site, Appendix D, Figure 1). The site is located in the central portion of the Amador-Livermore Valley, broadly bounded by Arroyo Mocho to the southwest, Arroyo Seco to the east and I-580 to the north. Hexcel has operated at the site since 1968 formulating and reacting plastic resins for coatings and adhesives.

2. **SITE HISTORY** The site area has been in use since 1906, when the northeastern portion was originally used as a borrow site for the adjacent railroad grade construction. Beginning in 1912 at the present location of the Hexcel plant, Coast Manufacturing and Supply (CMS) manufactured black powder, detonation cord, blasting caps, and later, fiberglass and plastics until the late 1960s. Apache Powder Company purchased CMS' black powder interests in 1967. Hexcel purchased the fiberglass and plastics interests of CMS and the manufacturing facility in 1968. Industrial wastes from explosives manufacturing had been dumped and burned in the borrow pit area from the 1920s into the mid 1960s, until state air quality regulations prohibited refuse burning and required cut and cover waste disposal methods.

Solvent spills have occurred at the Hexcel manufacturing facility and solvent related cleanup is the principal scope of this Order. Solvents currently stored and handled at the site include acetone, methylene chloride, methyl ethyl ketone (MEK), and denatured alcohol. Records from past years are non-existent as to whether the discharger used on a regular basis halocarbons such as TCE, PCE, or DCE.

3. **REGULATORY STATUS** On March 3, 1983, the Board adopted Cleanup and Abatement Order (CAO) 83-003, in response to; 1) Hexcel's failure to conduct subsurface investigations near underground solvent tanks that had been classified as priority 2 under the Board's leak detection program, and 2) a solvent spill at the site on or about February 15, 1983 (Spill 1, near Building 19), involving approximately 600-1000 gallons of AP-92 solvent (primarily methylene chloride) as a result of failed pipe connections between two underground tanks (Appendix D, Figure 2). A second solvent spill in April, 1983 (Spill 2), of about 1500 gallons of MEK, was later included within the scope of the CAO. The site was proposed for the EPA Superfund National Priorities List (NPL) in June 1988.

4. **HYDROGEOLOGY** The site is located in the Livermore Valley within the Mocho Groundwater Subbasin (Appendix D, Figure 3). Hexcel is located over the Mocho I Province of the Mocho Subbasin. The site is underlain by younger Quaternary alluvium of low-to-moderate permeability derived from the underlying Plio-Pleistocene non-marine Livermore Formation. Subsurface contacts at the site between the alluvium and underlying Livermore Formation are described as a paleosol and are referenced in reports from offsite groundwater investigations. Outcrops of Livermore Formation rocks are found in the low-lying hills northwest and southeast of the property and forms a northwest-trending low topographic saddle that forms the boundary between the Mocho I and Mocho II Provinces. The thickness of the Quaternary alluvium ranges from zero at the base of the hills to about 50 feet thick at the center of the Mocho 1 Province, east of the site.

Four water-bearing zones have been described at the site. A perched zone beneath the site extends from 6 to 16 feet deep. The shallow aquifer is between 15 and 35 feet deep. The middle aquifer is comprised of two stratigraphic units and descends from 40 to 50 feet deep. The deeper fourth aquifer is found between 52 and 57 feet deep. A five foot thick clayey zone, between 35 and 40 feet deep, separates the shallow and two deeper aquifers. Groundwater gradients in all four water-bearing zones slope westerly to northwesterly (Appendix D, Figure 4).

Three sites adjacent to Hexcel are known to have halogenated solvent groundwater pollution. They are; 1) Intel Corporation Fab III facility about 1/4 mile north from Hexcel, 2) the former Industrial Ladder facility about 1/3 mile to the northeast, and 3) an abandoned waste disposal site located just south of the former Industrial Ladder site, between the railroad tracks. Groundwater monitoring wells in the abandoned disposal site have sporadically shown low levels of VOCs and metals.

5. **SOIL AND GROUNDWATER INVESTIGATIONS** Site assessment work began in May, 1983 after the two multi-gallon solvent spills. To date, 21 soil borings and 18 monitoring wells have been constructed both within the main spill areas and throughout the site. Five largely continuous stratigraphic units, informally labeled A-E, underlie the site. (The four previously identified water-bearing zones occupy sediments of units A, B and C, and E). Unit A consists of silty- to clayey-sand and descends from the surface to between 8 and 13 feet. Unit B, from 10 to 30 feet in depth, is predominantly a root cast-bearing clay with laterally discontinuous sand and gravel lenses. Unit C is a 5 ft. thick sand and gravel layer, and unit D is a 5 foot thick layer of silty clay. Units C and D descend to about 40 feet below the surface. Unit E consisting of gravel, sand, and clay lenses and extends to a depth of about 57 feet.

6. **GROUNDWATER POLLUTION** Groundwater pollution from the Building 19 spills was confined near wells Hex-10, M-5, and M-3, dispersing in the groundwater to a radius of about 100 feet and about 38 feet vertically. Principal groundwater pollutant concentrations in the wells were:

<u>Monitoring Well</u>	<u>Acetone($\mu\text{g/l}$)</u>	<u>MEK($\mu\text{g/l}$)</u>
M-3	3,300,000	8,200,000
M-5	6,200,000	12,000,000
HEX-10	6,800,000	12,900,000

VOC groundwater pollution in distal areas from the Building 19 plume has been verified in four monitoring wells: Hex-7, Hex-11, Hex-12, and B-7. Chemicals include benzene, PCE, and TCE. Other chemicals unrelated to the Building 19 spills that occur or have occurred within the Building 19 plume water samples include vinyl chloride, toluene, and benzene.

Principal soil pollutants found in samples from soil borings drilled near Building 19 spills were in concentrations up to 290,000 $\mu\text{g/kg}$ for acetone and 450,000 $\mu\text{g/kg}$ for MEK. Current pollutant levels are unknown and will be evaluated with future work.

Trace amounts of TCE, PCE, and DCE have also been found in water samples collected from monitoring wells downgradient from Building 101, Tank J, and also between Buildings 19 and 101.

7. **INTERIM REMEDIAL ACTIONS** Cleanup in the Spill 1 area (February, 1983) involved the removal of two underground storage tanks and excavating about 70 cubic yards of surrounding polluted soil. A four inch extraction well (B-1) was installed in March, 1983 about eight feet north of the tank excavation and pumped polluted groundwater for 9 days. The well was then sealed with concrete. Later, about 500 gallons from Spill 2 (April, 1983) was contained by diking the ground around the spill and collecting the free surface liquids. However, it is estimated that about 1000 gallons of solvent flowed out through the building and evaporated and soaked into the ground and into the underground storage tank excavation.

Containment of the Building 19 plume was achieved both during a feasibility study of direct sewerage of well discharge in 1986, and during additional pumping and sewerage in February through May, 1987. Groundwater pollution in well Hex-10 was reduced from 28,000 mg/l to 960 mg/l total VOCs during the sewerage study. Pumping of groundwater from Hex-10 between February and May, 1987 resulted in total VOC concentrations of 14 $\mu\text{g/l}$. Concentrations of MEK and acetone in Hex-10 measured in July, 1988 were 5500 $\mu\text{g/l}$ and 1300 $\mu\text{g/l}$, respectively. Measurements made by the discharger in March, 1989 indicated non-detect levels for total VOCs. The discharger believes the Building 19 plume has been cleaned up. Further studies are needed to confirm this.

Investigation and cleanup efforts to date have been adequate to define the extent of VOCs and contain the groundwater plume from the Building 19 spills, but have not sufficiently addressed the full impact of overall site pollution. Interim remedial measures have been implemented and concentrations of VOCs have been reduced. Additional work is necessary to define soil and groundwater VOC pollution in other areas of the site.

8. This order contains tasks for completion of a Sampling and Analysis Plan which contains the Quality Assurance Project Plan and Field Sampling Plan, a Health and Safety Plan, development of the Administrative Record, and a Comprehensive Data Summary to review past site assessment reports in order to evaluate data gaps and deficiencies. These tasks are necessary to implement a well directed final RI/FS/RAP that does not duplicate past site assessment work or errors. This order will also provide a substantive technical basis for designing and evaluating the effectiveness of final cleanup alternatives.
9. In 1988, the Regional Board adopted resolution #88-63 "Sources of Drinking Water" which defines a groundwater basin as suitable or potentially suitable for domestic or municipal use as that which; 1) has a total dissolved solids (TDS) content of less than 3,000 mg/l, and, 2) has a minimum transmissivity such that one well can pump at least 200 gallons a day. The groundwater basin at the site falls within this category.
10. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on December 17, 1986. The Basin Plan contains water quality objectives and beneficial uses for the Amador-Livermore Valley and contiguous surface and ground waters.
11. The existing and potential beneficial uses of the groundwater underlying and adjacent to the facility include:
 - a. industrial process water supply
 - b. industrial service water supply
 - c. municipal and domestic water supply
 - d. agricultural water supply
12. The existing and potential beneficial uses of Arroyo Mocho and Arroyo Seco as tributaries to Arroyo De la Laguna include:
 - a. groundwater recharge
 - b. recreation
 - c. warm and cold fresh water habitat
 - d. wildlife habitat
 - e. fish migration and spawning
13. The discharger has caused or permitted, and threatens to cause or permit waste to be discharged or deposited where it is or probably will be discharged to waters of the State and creates or threatens to create a condition of pollution or nuisance.
14. This action is an order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of the CEQA pursuant to Section 15321 of the Resources Agency Guidelines.
15. The Board has notified the dischargers and interested agencies and persons of its intent under California Water Code Section 13304 to prescribe Site Cleanup Requirements for the site, and has provided them with the opportunity for a public hearing and an opportunity to submit their written views and recommendations.
16. The Board, in a public meeting heard and considered all comments pertaining to the Site.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the dischargers shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous materials in a manner which will degrade water quality or adversely affect the beneficial uses of the waters of the State is prohibited.
2. Further significant migration of pollutants through subsurface transport to waters of the State is prohibited.
3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of pollutants are prohibited.

B. SPECIFICATIONS

1. The storage, handling, treatment or disposal of soil or groundwater containing pollutants shall not create a nuisance as defined in Section 13050(m) of the California Water Code.
2. Hexcel shall conduct site investigations and monitoring activities as needed to refine current local hydrogeologic data and extent of soil and groundwater pollution. Monitoring activities shall be in accordance with Provision C.1.b. and as approved by the Executive Officer. Should monitoring results show evidence of plume migration, additional plume characterization shall be required.
3. Final cleanup levels and goals for polluted groundwater shall be background water quality if feasible, but shall not be greater than the DHS drinking water Action Level (AL) or Maximum Contaminant Level (MCL), whichever is more stringent. If an AL or MCL has not been established, the level shall be in accordance with the State Water Resources Control Board's Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California", based on an evaluation of the cost, effectiveness and a risk assessment to determine affect on human health and the environment. These levels shall have a goal of reducing the mobility, toxicity, and volume of pollutants. State Board Resolution 88-63 definition of sources of drinking water may be applied in determination of final cleanup goal. Final cleanup levels shall be approved by the Board.
4. If it is determined by the Executive Officer that polluted soils need to be remediated, the cleanup goal is 1 ppm for total VOCs. This goal may be modified by the Executive Officer if the discharger demonstrates with site specific data that higher levels of VOCs in the soil will not threaten the quality of waters of the State or that cleanup to this level is infeasible and human health and the environment are protected.

5. If groundwater extraction and treatment is considered as an alternative, the feasibility of water reuse, reinjection, and disposal to the sanitary sewer must be evaluated. Based on the Regional Board Resolution 88-160, the dischargers shall optimize, with a goal of 100%, the reclamation or reuse of groundwater extracted as a result of cleanup activities. The dischargers shall not be found in violation of this Order if documented factors beyond the discharger's control prevent the dischargers from attaining this goal, provided the dischargers have made a good faith effort to attain this goal. If reuse or reinjection is part of a proposed alternative, an application for Waste Discharge Requirements may be required. If discharge to waters of the State is part of a proposed alternative, an application for an NPDES permit must be completed and submitted, and must include the evaluation of the feasibility of water reuse, reinjection, and disposal to the sanitary sewer.

C. PROVISIONS

1. The discharger shall comply with the Prohibitions and Specifications of this Order in accordance with the following task and time schedule:

TASKS AND COMPLETION DATES

- a. TASK: SAMPLING AND ANALYSIS PLAN (SAP)

Submit a technical report acceptable to the Executive Officer containing a Sampling and Analysis Plan containing elements of a Quality Assurance Project Plan (QAPP) and a Field Sampling Plan (FSP). The SAP should be prepared using CERCLA guidance documents and shall contain the elements of the QAPP and FSP.

COMPLETION DATE: July 27, 1990

- b. TASK: COMPREHENSIVE DATA SUMMARY, HEALTH AND SAFETY PLAN AND WORKPLAN FOR COMPLETION OF RI/FS:

Submit a technical report acceptable to the Executive Officer that summarizes all past site assessment work. The document shall contain at least the following information: specific references to documents if not readily available, plan view maps with adjacent culture indicating locations of all wells and soil borings, tabulated site specific soil and groundwater quality analyses including test methods, potentiometric surface maps and

plume maps. The report shall contain an analysis of presented data and identify data gaps using CERCLA guidance for conducting Remedial Investigations (RI) and Feasibility Studies (FS).

The report shall include a Health and Safety Plan (HASP) which will identify and evaluate risks that may be encountered during site environmental assessment work. The plan shall include precautions that may be necessary to avoid serious threats to health and provisions to be undertaken in the event chemical exposures or injuries occur. The HASP may be attached as an appendix to the RI/FS workplan.

The report shall contain a proposed workplan for an RI/FS and a time schedule for submittal of the completed RI/FS report.

COMPLETION DATE: July 27, 1990

c. TASK: BASELINE PUBLIC HEALTH EVALUATION
WORKPLAN:

Submit a technical report acceptable to the Executive Officer containing a workplan for the completion of a baseline public health evaluation prepared in accordance with Risk Assessment Guidance for Superfund Human Health Evaluation Manual (EPA 540/1-89/002, December, 1989).

COMPLETION DATE: August 30, 1990

d. TASK: DATA VALIDATION PACKAGE

Submit a technical report acceptable to the Executive Officer that describes the proposed Data Validation procedures to be utilized for new sampling and analyses at the Hexcel site. All samples shall be analyzed by laboratories certified to perform analysis on Hazardous Materials or laboratories using approved EPA methods or an equivalent method acceptable to the Executive Officer. The dischargers shall request laboratories to follow California Department of Health Services guidance "Documentation Requirements for Project Data Packages" dated December 29, 1989 for preparation of data validation packages when required by the Executive Officer. The dischargers shall request the laboratories to maintain quality assurance/quality control records for Regional Board review for a period of six years and will inform the Regional Board of each laboratory's response.

COMPLETION DATE: August 30, 1990

- 2) Updated potentiometric surface maps, based on the most recent quarterly water level measurements for all affected water bearing zones monitored by onsite and offsite wells.
 - 3) If groundwater extraction is a part of cleanup, include a cumulative tabulation of volume of extracted groundwater, quarterly analysis results for all groundwater extraction wells, and pounds of chemicals removed.
 - 4) Updated well construction details for any additional wells that have been installed during the quarter.
 - 5) Updated or revised reference diagrams including geologic cross-sections and appropriately scaled and detailed base maps showing the location of all monitoring wells and extraction wells, and identifying adjacent facilities and structures.
 - 6) Identification and notification of non-compliance with groundwater monitoring requirements of this Order, as described in Provisions 4.a.2. and 4.a.3.
- c. **ON AN ANNUAL BASIS**, technical reports on the progress of compliance with all requirements of this Order shall be submitted to the Board, commencing on January 30, 1991, and covering the previous year. Annual reports may include monthly and quarterly reports due concurrently. The progress reports shall include, but need not be limited to, progress on the site investigation and remedial actions, operation of interim and final remedial actions and/or systems, and the feasibility of meeting groundwater and soil cleanup goals.
5. All hydrogeological plans, specifications, reports, and documents shall be signed by or stamped with the seal of a California registered geologist or professional engineer, or a certified engineering geologist .
 6. The discharger shall maintain in good working order, and operate, as efficiently as possible, any facility or control system installed to achieve compliance with the requirements of this Order.
 7. Copies of all correspondence, reports, and documents pertaining to compliance with this Order shall be provided to the following agencies:
 - a. Alameda County Flood Control District, Zone 7
 - b. Alameda County Health Department (Gil Wistar)
 - c. City of Livermore (John Hines)
 - d. U.S. Environmental Protection Agency, Region IX (Jim Hansen)

8. The discharger shall permit the Board or its authorized representative, in accordance with Section 13267(c) of the California Water Code:
 - a. Entry upon dischargers' premises in which any pollution sources exist, or may potentially exist, or in which any required records are kept, which are relevant to this Order.
 - b. Access to copy any records required to be kept under the terms and conditions of this Order.
 - c. Inspection of any monitoring equipment or methodology implemented in response to this Order.
 - d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the dischargers.
9. If any hazardous substance is discharged to any waters of the state, or discharged and deposited where it is, or probably will be discharged to any waters of the state, the discharger shall report such discharge to this Regional Board, at (415) 464-1255 on weekdays during office hours from 8 a.m. to 5 p.m., and to the Office of Emergency Services at (800) 852-7550 during non-business hours. A written report shall be filed with the Regional Board within five (5) working days and shall contain information relative to the nature of waste or pollutant, quantity involved, duration of incident, cause of spill, Spill Prevention, Control and Countermeasure Plan (SPCC) in effect, if any, estimated size of affected area, nature of effect, corrective measures that have been taken or planned, and a schedule of these activities, and persons/agencies notified.
10. This Site Cleanup Order rescinds CAO 83-003.
11. The Board will review this Order periodically and may revise the requirements when necessary.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of any Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on May 16, 1990.


Steven R. Ritchie
Executive Officer